

REMARKS

Claims 10-13, 22-24, 44, 48, and 49 are withdrawn, claims 25-39 are canceled with specific reservation to pursue the subject matter of these claims in a divisional or other patent application, and claims 50 and 51 are added. Claims 1-9, 14-21, 40-43, and 45-47 stand rejected, claims 2 and 8 are amended. Thus, after entry of this amendment, claims 1-24, and 40- 51 will be pending. Claims 2 and 8 are amended to improve the form of the claims. Support for new claim 50 is found in the specification in paragraph [0029]. Support for new claim 51 is found in as-filed claim 14 and in paragraphs [0032] and [0041]. The undersigned believes these amendments do not add new matter.

Paragraphs [0026], [0032], and [0048] are amended to correct obvious typographical errors. The undersigned believes these amendments do not add new matter.

The Applicants hereby confirm the election of Group I, Species I. The Examiner states on page 3 of the Office action that claim 1 is currently generic to claim 14. The Applicants believe claims 1-9, 14-21, 40-43, 45-47, 50 and 51 read thereon. If claim 1 is found to be allowable, the Applicants respectfully request rejoinder of withdrawn claim 22, which depends from claim 14.

On page 4 of the Office action, the Examiner states that a provisional election of Group I, Specie I was made with traverse on March 10, 2003. The undersigned would like to clarify that he did not traverse, but stated that he believed claim 1 was generic to claim 14, as indicated in the Office action.

Rejections under 35 U.S.C. § 112

Claim 3 stands rejected as being indefinite because the description of the resistance in Ohms-per-square fails to give a unit of area. The Applicant notes that claim 3 recites sheet resistivity, not resistance. Ohms-per-square is a unit-less measure of sheet resistivity for thin films that is commonly used in many areas of technology. For example, ohms/square is used in Col. 13, lines 1-4 and is further discussed in Col. 18, lines 8-19 of U.S. Patent No. 6,475,626 by Stachowiak, which the Examiner cites in the Office action. Reconsideration and removal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 102

Claims 1, 2, 9, 14, 18, 40-43, and 45-47 stand rejected as being anticipated by U.S. Patent No. 5,920,080 by Jones (hereinafter "Jones"). The Examiner cites Jones for disclosing a glass panel coated with a first multiple layer, moisture-sensitive coating having pinholes and a second multiple layer coating for protection the first layer from exposure to moisture from the pinholes. The Applicants respectfully traverse the Examiner's position.

Claim 1 recites, among other elements, a moisture-sensitive coating disposed on a first surface of the glass substrate, the moisture-sensitive coating having pinholes. Jones states that "[e]xposure to air and moisture presents unique problems with respect to OLEDs" (Col. 2, lines 28-29), and that polymer films and evaporated metal films can be used to seal OLEDs, but that both are susceptible to pinholes (Col. 2, line 66-Col. 3, line 5). Jones also discloses that the dielectric material of the microcavity stack 400 may be evaporated at shallow angles to minimize pinhole density (Col. 6, lines 37-57).

Based on the Examiner's citation, the undersigned presumes the OLED is intended as a moisture-sensitive coating as recited in claim 1. Jones does not disclose pinholes in the OLED. Therefore Jones does not disclose all elements of claim 1, and the Applicants believe claim 1 and all claims that depend from claim 1 are allowable. The Applicants further believe that claim 14 and all claims that depend from claim 14 are allowable for similar reasons.

Claim 18 recites that the polymer film of claim 14 is attached to a second surface of the glass substrate, *i.e.* on the other side of the glass substrate from the first thin-film stack. Jones does not disclose this element or structure, therefore the Applicants believe claim 18 is further patentable.

New claim 50, which depends from claim 1, recites that the pinholes comprise voids formed from removal of nodules. The Applicants teach that nodules can grow and propagate through successive thin-film layers, and that moisture can travel down the boundary of the nodule interface (Paragraphs [0028] and [0029]). Thus it is particularly desirable to remove nodules from the moisture-sensitive coating before overcoating the moisture-sensitive coating with a plurality of thin-film layers. Accordingly, the Applicants believe claim 50 is further patentable.

The Applicants believe claim 14 is patentable for at least the reasons given above in support of claims 1 and 47, and is further patentable over the cited reference for the following reasons. Claim 14 recites, among other elements, that the first thin-film stack includes at least one conductive layer susceptible to moisture-induced corrosion, and a second thin-film stack disposed on the first thin-film stack sealing the pinholes to avoid moisture-induced corrosion of the conductive layer. Jones does not disclose or suggest all elements of claim 14, and therefore claim 14 and all claims that depend from claim 14 are patentable.

Claim 41 recites that the dyed layer of claim 40 is a polymer film layer, and claim 42 recites that the dyed layer is an adhesive layer. The Examiner asserts that Jones teaches that a dyed layer may be used with the glass panel display, and the dyed layer serves as both a polymer layer and an adhesive layer. The Applicants respectfully traverse the Examiner's position. Jones discloses a color converter layer 520 that may be formed by providing color conversion dye materials above the barrier layer 540 (Col. 10., lines 57-60). Jones states that adhesives may be used in the sealing layer 530, which is between the barrier layer 540 and the color converter layer 520 (Col. 10, lines 18-19), and that polymer films can be used to seal OLEDs (Col. 2, line 66 – Col. 3, line 4). Thus, Jones does not disclose or suggest the elements recited in claims 41 and 42, which the Applicants believe are further patentable.

Claim 43 recites that the dyed layer of claim 40 is disposed on the moisture-sensitive coating. In Fig. 4, Jones shows the color converter layer 520 disposed on the sealing layer 530, which is disposed on the barrier layer 540. In Fig. 3, Jones shows the color converter layer 520 disposed on the barrier layer 540, which is disposed on the microcavity 400. Jones does not disclose or suggest a dyed layer disposed on a moisture-sensitive coating; therefore, the Applicants believe claim 43 is further patentable.

Claim 46 recites that the dyed layer of claim 45 is disposed on the second thin-film stack. In Fig. 3, Jones shows a color converter layer 520 disposed on a barrier layer 540, which is described as a layer of diamond-like amorphous carbon ("DLC") or silicon carbide (SiC). Claim 14, from which claim 45 depends, recites that the second thin-film stack is disposed on the first thin-film stack sealing the pinholes to avoid moisture-induced corrosion of the conductive layer. The barrier layer 540 of Jones is not equivalent to the recited thin-film stack, and is not in the recited relation to the recited first thin-film stack; therefore, the

Applicants believe claim 46 is further patentable.

Claim 47 recites that the polymer film of claim 18 is dyed to color-shift the output of the glass panel. Jones does not disclose or suggest the recited polymer film, and hence cannot disclose or suggest that it is dyed to color-shift the output of the glass panel; therefore, the Applicants believe claim 47 is further patentable.

Claims 1, 2, 7, 8, 14, 15, and 21 stand rejected as being anticipated by U.S. Patent No. 6,475,626 by Stachowiak (hereinafter "Stachowiak"). The Examiner cites Stachowiak for teaching a glass panel coated with a first multiple layer, moisture sensitive coating having pinholes and a second multiple layer coating for protecting the first layer from exposure to moisture from the pinholes. The Examiner references Col. 4, lines 19-43, and asserts that the low-E coating layer disclosed in Stachowiak must have pinholes present. The Applicants respectfully traverse the Examiner's position.

As explained in paragraph [0029], the term "pinhole" refers to a defect from which a nodule has been removed. Stachowiak uses "pinhole" only once, on line 29 of Col. 18, when defining what constitutes chemical durability. Stachowiak makes no mention of removing nodules or that the layers deposited over the presumed pinholes seal the pinholes. Stachowiak discloses that the coated side of the glass sheet 21 faces an insulating space 30 that is formed when two glass sheets are sealed at their peripheral edges by a conventional sealant 25 and are provided with a conventional desiccant strip 27 (Col. 5, lines 44-53, and Fig. 2). Thus, Stachowiak teaches away from the recited invention. Therefore, the Applicants believe claim 1 and all claims that depend from claim 1 are patentable, as is claim 14 and all claims that depend from claim 14.

Claim 15 recites that the second thin-film stack of claim 14 comprises an index-matching coating. The Examiner asserts that Stachowiak teaches forming an index-matching coating on the first coating, referencing Col. 2, lines 17-28 and 49-65. The Applicants respectfully traverse the Examiner's position. In Col. 2, lines 23-27, Stachowiak states that there is "a need in the art for a low-E coating or layer system which after heat treatment substantially matches in color and/or reflection (as viewed by a naked human eye from the glass side) its non-heat treated counterpart". This is not equivalent to the recited index-matching coating. Furthermore, Stachowiak discloses that matching the appearance between

heat-treated and non-heat-treated systems involves viewing from the glass side, not the coated side, and hence teaches away from the present invention. The Applicants believe claim 15 is further patentable.

Rejections under 35 U.S.C. § 103

Claim 3 stands rejected as being obvious in light of Jones. The Examiner cites Jones for disclosing an OLED with a low activation voltage and asserts that this would obviously include a very low resistance that would encompass 5 Ohms/square. The Examiner further asserts that it would have been *prima facie* obvious to combine a sheet having very low resistance with the OLED device of Jones for the reasons given in the body of the rejection. The Applicants respectfully traverse the Examiner's position.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

It is the Applicants' position that the activation voltage of 5 Volts cited by the Examiner does not obviously include a very low resistance. For example, a device may have a high impedance and still be activated by a 5 Volt signal. Claim 3 recites that the stack of thin-film layers of claim 2 includes at least one conductive layer and that the stack of thin-film layers has a sheet resistivity less than 5 Ohms per square. Thus, the Examiner has not shown all elements of claim 3 in the cited art, has not provided motivation for why a sheet having very low resistance would be combined with the OLED glass panel of Jones or where in the OLED glass panel the recited stack of thin-film layers might be combined, and has not provided any expectation of success for such combination or modification. Therefore, the Applicants believe a no *prima facie* case of obviousness has been established, and respectfully request reconsideration of claim 3 and withdrawal of this rejection.

Claims 4-6, 15-17, and 20 stand rejected as being unpatentable over Jones in view of U.S. Patent No. 6,472,073 by Singh et al. (hereinafter "Singh") and U.S. Patent No. 3,034,916 by Eshner (hereinafter "Eshner"). The Examiner asserts that Jones teaches the claimed invention, except for using MgF_2 as an antireflective coating, which is taught by Singh and Eshner. The Examiner further asserts that it would have been obvious to combine the teachings of Singh and Eshner with Jones. The Applicants respectfully traverse the Examiner's position.

Claim 4 recites that the plurality of thin-film layers of claim 1 comprises an anti-reflective coating. Claim 1 recites that the plurality of thin-film layers seals pinholes to protect the moisture-sensitive coating from moisture. However, the combination proposed by the Examiner does not result in the claimed invention. Jones discloses using a sealing layer 530 of gel above a barrier layer 540 of diamond-like coating.

As discussed above in support of claim 1 relative to Jones, Jones discloses pinholes in the barrier layer 540, as well as in the getter layer 252. Both these layers are within the stack. Jones discloses a protective cover glass 510 approximately 0.2 mm thick on top of the other layers. Where would one combine the anti-reflective layer disclosed in Singh in the OLED display of Jones? If it were placed on the surface of the cover glass, it would not seal pinholes in a moisture-sensitive layer. If it were placed elsewhere, how would it operate as an anti-reflective layer? It is the Applicants' position that one of ordinary skill would not be motivated to combine the references as suggested by the Examiner, that there is no convincing line of reasoning provided as to the likelihood of success of the proposed combination, that no *prima facie* obviousness has been established, and that the proposed combination would not result in the present invention. Therefore the Applicants believe claim 4 is further patentable, and that claims 15-17 and 20 are patentable for similar reasons.

Claim 20, which recites an anti-reflective coating disposed on a surface of the polymer film of claim 18, is further patentable at least for the reasons given above for claim 18. Jones does not disclose the recited polymer film, and therefore cannot disclose or suggest the recited anti-reflective coating.


Claim 19 stands rejected as being unpatentable over Jones in view of U.S. Patent No. 6,197,408 by Kanbara et al. (hereinafter "Kanbara"). The Examiner asserts that Jones does

not teach using a PET film in the assembly, and cites Kanbara for using a PET film in combination with an LCD. The Examiner further asserts that it would have been obvious to use PET film with the OLED device of Jones to prevent electromagnetic dissipation from the device to the user, while not affecting the OLED's transparency or cost. The Applicants respectfully traverse the Examiner's position. As a threshold issue, it is the Applicants position that adding a PET film to the OLED device of Jones would increase the cost, thus providing a disincentive for its incorporation, and it is unclear as to how or why simply incorporating PET film in the OLED display of Jones prevents electromagnetic dissipation from the device to the user. Thus, the Applicants believe claim 19 is not obvious in light of Jones and Kanbara, is further patentable, and respectfully request reconsideration of claim 19 and removal of this rejection.

CONCLUSION

The Applicants submit that all claims are now in condition for allowance. Favorable reconsideration and timely issuance of a Notice of Allowance are respectfully requested. Should the Examiner consider necessary or desirable any formal changes anywhere in the specification, claims and/or drawings, then it is respectfully asked that such changes be made by Examiner's Amendment if the Examiner feels this would facilitate passage of the case to issuance. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (707) 591-0789.

Respectfully Submitted



Scott W. Hewett
Reg. No. 41, 836

Scott Hewett
Patent Attorney
400 West Third Street, No. 223
Santa Rosa, CA 95401
Tel.: (707) 591-0789
Fax.: (707) 591-0392

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